

Robinson

JAMES & ANNE

NATURE CENTER



Howard
County

RECREATION & PARKS



FIELD TRIPS



General Information

Table of Contents

Sensory-Friendly Field Trips..... 4
Environmental/Historic Field Trips 5
Astronomy Field Trips..... 8
Special Field Trip Add-onsBack

Contact Information

Robinson Nature Center
6692 Cedar Lane
Columbia, MD 21044

Phone: 410-313-0400
Fax: 410-313-0409

www.howardcountymd.gov/RobinsonNatureCenter

Hours

Wednesday-Saturday: 9 AM-5 PM
Sunday: Noon-5 PM
Closed on Mondays & Tuesdays

Daily Admission

Adults: \$5
Child (3-17 yrs): \$3
Under 3: FREE
*Wednesdays are complimentary for families and individuals. Group visits are subject to admission fees and must be booked in advance.

About

The James & Anne Robinson Nature Center is a green-designed nature education center situated on 18 acres of forested land. Operated by Howard County Department of Recreation and Parks, the nature center features interactive exhibits, a children’s discovery room, the Nature Place outdoor play area, an auditorium, classrooms/meeting rooms and the NatureSphere, a state-of-the-art digital planetarium. A model of green-building practices, the center includes a geothermal heating and cooling system, solar panels, a porous concrete parking lot and many more sustainability and efficiency features. A mile of nature trails allows visitors views of the Middle Patuxent River and the Simpsonville Mill ruins.

Field Trip Specifics

What do field trips include?

All field trips include admission to the nature center, a naturalist-led program that meets Next Generation Science Standards (NGSS), and time for students to explore the nature center's Discovery Room, Nature Place and exhibits. Please note, this exploration time is self-guided. Chaperones are responsible for students during this time. Each field trip description in this brochure details the naturalist-led portion of the experience your students will enjoy.

Do I need to book in advance?

All field trips must be booked in advance of your visit.

How do I schedule a field trip?

To schedule a field trip, you must submit the online field trip request form that can be found on our website under the "Education" tab: www.howardcountymd.gov/RobinsonNatureCenter.

How many students can you accommodate?

Maximum numbers vary based on the field trip experiences selected. In general, we can accommodate groups of up to 120. Please confirm with Robinson's Field Trip Coordinator the maximum numbers your selected experience allows.

Large groups will be divided for the duration of their trip. Your field trip schedule will note the number of smaller groups into which you need to divide students before you arrive. There is no minimum group size, though there is a minimum fee of \$135 for each field trip program.

What are your adult/student ratios for field trips?

Required: The ratio varies by age. Please see the below ratios. The ratio will also be noted on your field trip schedule. This adult must remain with their group at all times.

Recommended: 1:3 for preschool and early 2-year-olds; 1:5 for Grade K, 1 and 2, 1:8 for Grades 3-8, 1 for each group noted on your field trip schedule for high school.

How much does a field trip program cost?

The cost of each field trip is noted under each field trip program in this brochure. Teachers, school staff and required chaperones (as per policy above) are free of charge. Chaperones in addition to the number required for your trip pay the same cost as students.



What accommodations do you provide special needs groups?

We request that all groups notify Robinson of special needs at least two weeks in advance of the trip. If we are notified in advance, we have several accommodations we can offer. For students with mobility issues, we use paved portions of our trail or alternate indoor activities. We also offer sensory-friendly accommodations for students with autism, Aspergers and ADHD. For groups where the majority of students require these accommodations, we recommend booking the Sensory-Friendly Field Trip option (pg 4).

What happens in the event of inclement weather on the day of the field trip?

Field trips are held rain or shine. For safety, strong winds and/or thunderstorms may require a substitution of alternative indoor activities. In the case of a weather emergency in which schools are closed, your field trip will be cancelled. If an alternate date is available, we reschedule the trip.

For additional questions, please call 410-313-0400.



- Field trips are listed in order by grade level.
- For environmental field trips, NGSS standards met on each field trip are noted.
- For Howard County Public School System (HCPSS) elementary students, we offer versions of our field trips that are specifically adapted to meet certain curricular objectives. HCPSS curricular alignments for each field trip are noted.

Sensory-Friendly Field Trips

Sensory-Friendly Nature Study*

All ages / 1 hr, 30 min / Year-round availability on W, Th, F / \$9 per participant

This program allows students that benefit from sensory-friendly accommodations to explore nature and make new discoveries in a way that best meets their needs. Music, hands-on activities, and movement are integrated as we traverse trails, learn about plants and animals, and search for signs of wildlife. Imaginations will run wild as we immerse ourselves in the natural world!

**This field trip is for groups that require special accommodations for a majority of the participants. Nature Center staff coordinates directly with the lead teacher once booked. Group size is limited and determined based on available space, staff, and participant needs.*

Lil' Puppet Adventure

2-4 years with parent / 1 hr, 30 min / Year-round availability on W, Th, F / \$9 per participant

For the littlest nature explorers, this program is perfect. Choose from one of two puppet shows for your program. Participate in a nature walk, games, songs and movement activities. This program is held in the Nature Center auditorium and is limited to 80 students.

Puppet Show choices & age recommendations:

Little Fawn Goes Home (2-5 yrs) - After a day of playing outside, Little Fawn finds herself lost, and away from home. Join her as she travels through habitats and meets different animals on her journey in search of her perfect home.

First Impressions (3-5 yrs) - Tabitha Turtle is new to the forest and begins looking for friends. While making her way through the forest, she encounters animals that she is afraid of until she gets to know them. Sometimes your first impression isn't always correct.

Nature Now

4 years + / 1 hr, 30 min / Year-round availability on W, Th, F / \$9 per participant

Curious about what's going on in nature right now? This exciting program highlights the special, ever-changing events happening seasonally in nature and on our trails. Explore the fascinating habits of wildlife – whether they are migrating, hibernating or fighting for territory and survival. Take a closer look at the remarkable changes plants undergo – from spreading their seeds, to blooming and attracting pollinators, to dropping their leaves. Programs are interactive and tailored to the age group of your choice. From preschoolers to adults, come discover the magic behind nature's seasonal transformations!

NGSS Standard: 3-ESS2-1

Discover Nature

Grades Pre-K-1 / 1 hr, 30 min / Year-round availability on W, Th, F / \$9 per participant

Expose your students to a variety of sights, smells and sounds in this fun-filled program. Through exploration of animal mounts, fur, skulls and shells, get an up-close experience with nature. Explore what plants and animals need to survive, and the relationship between their needs and where they live. Head out to the trail to discover the mysteries of our environment.

HCPSS Recommended Field Experience: Kindergarten, Quarter 4

NGSS Standards: K-LS1-1, K-ESS3-1, K-ESS3-3



Environmental/ Historic Field Trips

Wildlife Wonders

**Grades K-4 / 1 hr, 30 min / Year-round
availability on W, Th, F / \$9 per participant**

Animals fascinate children. From foxes and finches to frogs and fish, introduce your students to common kinds of animals with an emphasis on the five vertebrate groups (birds, mammals, fish, reptiles and amphibians). Investigate the similarities and differences between animal groups through props and mounts. Older students further explore life cycles and gain an understanding of how young animals, particularly amphibians, can differ drastically in appearance from their parents. Search the trails for signs of each type of creature.

HCPSS Recommended Field Experience: 4th Grade, Quarter 4
NGSS Standard: 1-LS3-1

Happening Habitats

**Grades 1-4 / 1 hr, 30 min / Year-round
availability on W, Th, F / \$9 per participant**

Adaptations are everywhere, and there is no better way to investigate them than by examining the organisms found in different locations at the nature center. Discover how plants and animals have special features and types of coloration that allow them to survive in specific habitats. Compare man-made inventions to features found on plants and animals, and determine how both humans and other organisms use these features to meet their basic needs. Hike the trail passing various habitat types while examining furs, feathers, seeds and other objects that give clues to the survival of animals and plants that call each habitat "home."

HCPSS Recommended Field Experience: 1st Grade, Quarter 1;
2nd Grade, Quarter 4
NGSS Standards: 1-LS1-1, 2-LS4-1, 3-LS4-3, 3-LS4-4 and 4-LS1-1

Have Seeds, Will Travel

**Grades 1-3 / 1 hr, 30 min / Year-round
availability on W, Th, F / \$9 per participant**

Plants can't walk, but they sure can travel. In this program, discover what plants need to grow, and take part in fun demonstrations showing the methods plants use to disperse their young without the luxury of feet! On our trails, observe the wide diversity of plants that grow in each habitat as you search for those plants that grow from the same tiny seeds you learned about.

HCPSS Recommended Field Experience: 2nd Grade, Quarter 4
NGSS Standards: 2-LS2-2, 2-LS4-1

Water Works

**Grades 2-5 / 1 hr, 30 min / Year-round
availability on W, Th, F / \$9 per participant**

Water can affect everything from the efficiency of our buildings to the stability of our landscapes. Use hands-on demonstrations to explore where water comes from and what effects it has on the Earth as it moves through the water cycle. Identify water's effects on the landscape, including a closer look at erosion, sedimentation and seasonal changes. Older students further investigate the LEED (Leadership in Energy and Environmental Design) features of the nature center and its property to understand how these features mitigate against some of the negative impacts of weather including storm water run-off and temperature extremes.

HCPSS Recommended Field Experience: 2nd Grade, Quarter 3;
5th Grade, Quarter 2
NGSS Standards: 2-ESS2-1, 3-ESS2-1, 3-ESS3-1



On our trails, observe the wide diversity of plants that grow in each habitat during our Have Seeds, Will Travel field trip.

Going Buggy

Grades 2-4 / 1 hr, 30 min / Spring and Fall availability on W, Th, F /

\$9 per participant

Insects are incredible! Through mounts and specimen displays, discover the diverse world of insects. Investigate what sets an insect apart from other invertebrates. Concepts include life cycles, environmental influence, and adaptations. Outside, search for these amazing creatures, discovering the important roles each one plays in the food chain and in maintaining the natural cycles of decomposition and renewal.

HCPSS Recommended Field Experience: 3rd Grade, Quarter 4

NGSS Standards: 3-LS1-1, 3-LS3-2

The World to a River-Dweller

Grades 4-7 / 2 hours /

Spring and Fall availability on W, Th, F / \$12 per participant

Rivers and streams are full of life, and these forms of life can indicate the health of the water body. In this program, examine live macroinvertebrates that exist in the Chesapeake Bay watershed. Gain an understanding of food chains and how the smallest of creatures can play a critical role in a stream's

health. Categorize and analyze finds from a segment of the Middle Patuxent River, and experiment with a watershed model. From this learning, draw your own investigative conclusions as to the "health" of the river and how humans can affect the lives of river-dwelling organisms.

HCPSS Recommended Field Experience: 5th Grade, Quarter 2

NGSS Standards: 5-PS3-1, 5-ESS3-1, MS-LS2.C, MS-ESS3.A

Changing of the Land

Grades 4-6 / 2 hours / Year-round

availability on W, Th, F / \$12 per participant

Every piece of land has a past. In this program, journey through the 10,000-year history of our local area, from Native American occupations to the growth of the milling industry and the emergence of Simpsonville Village. Handle artifacts, discover techniques used to piece together past eras and analyze how humans have adapted over time to changing needs. Take part in fun demonstrations including milling grain and using modern-day tools that mimic the Native American hunting atlatl. Hike the trails to discover plants used for traditional medicine, eco-friendly practices used in modern-day land management and the ruins of an 18th century grist mill.

Maryland State Social Studies Content Standards 2-5 for grades 4-6

Unliving Proof

**Grades 4-8 / 1 hr, 30 min / Year-round
availability on W, Th, F / \$9 per participant**

Take part in a challenging and fun investigation using the techniques of scientists. Through investigation of mammal skulls, discover how teeth, skull shape and eye placement can unravel the mystery of an animal's life. In pairs, students handle their own skulls and use a dichotomous key to determine what animals the skulls belonged to. Hike the trails to discover environmental clues that alert you to an animal's presence.

HCPSS Recommended Field Experience: 4th Grade, Quarter 4

NGSS Standards: MS-LS4.C

NEW! The World "Deer" to Us

**Grades 6-8 / 3 hrs / Fall and Spring
availability on W, Th, F / \$15 per
participant**

During this rigorous, hands-on field trip, students conduct a histological investigation to diagnose a patient's illness, compare the anatomy of different skulls to identify predator-prey relationships and conduct surveys inside and outside of a deer enclosure to investigate deer impact on native and invasive plant populations.

This field trip is designed to be a part of a year-long Meaningful Watershed Educational Experience (MWEE) for middle school students. Aligned to the 7th grade Project-Based Inquiry Science curriculum, the trip to Robinson serves as the field experience where students collect data.

Students use data back in the classroom to develop an action project/mitigation strategy that minimizes the negative environmental and public health impacts of Howard County's high-density deer population.

Robinson provides teachers with the pre- and post-experience curriculum for the classroom and various options for student action projects.

This field trip is limited to 100 participants. If you would like us to accommodate more, please contact the Nature Center directly to review scheduling options.



It's Easy Being Green

**Middle and High School / 1 hr, 30 min /
Year-round availability on W, Th, F /
\$9 per participant**

This program emphasizes our connection to the natural world by exploring different forms of green technologies. Calculate your carbon footprint, and discuss issues such as storm water management and natural resource consumption. Investigate light filament technology and learn how building insulation can increase efficiency. See numerous real-world examples of human engineering for a sustainable future touring Robinson's LEED platinum facility. Information on geothermal heating and cooling, solar panels, porous pavement, rain gardens and many other environmentally-friendly features is covered.

NGSS Standards: MS-ESS3-4, HS-ESS3-4

E-Lit Standards: 5 and 8

Battlefield Earth

**Grades 9-12 / 1 hr, 30 min /
Spring and Fall availability on W, Th, F / \$9
per participant**

Alien invaders are spreading across the land! This field trip is not only about investigating the invasion, but about taking action to stop it. Discover the impact that invasive species are having on Maryland's ecosystem. Evaluate the pros and cons to different control methods, and learn about careers in which land management decisions centered on invasive species control are paramount. Take part in a **service learning project** centered around civic action and invasive species control at the nature center. Students should wear comfortable clothing and be ready to work outdoors.

NGSS Standards: HS-ESS3.A, HS-ESS3.C

E-Lit Standards: 1 and 5



Learn about space and earth systems science in our NatureSphere planetarium.

Astronomy Field Trips

Earth's Place in Space

Grades 1-2 / 2 hours / Year-round

availability on W, Th, F / \$12 per participant

The nighttime sky is dynamic but what exactly causes it to change from one evening to the next? While seated in the comfort of our digital planetarium, witness the sunset and watch the transformation of our sky as the stars appear. Young students engage in making observations about the world around them as they see the movement patterns of objects in the sky. View the constellations and hear the stories behind them. Outside of the planetarium, they examine actual meteorites and investigate the surface of Earth's moon. The majority of this field trip takes place in the planetarium. This field trip is limited to 100 total participants.

HCPSS Recommended Field Experience: 1st grade, Quarter 2

NGSS Standards: 1-ESS1-1, 1-ESS1-2

Starlight, How Bright?

Grades 3-5 / 2 hours / Year-round

availability on W, Th, F / \$12 per participant

Witness the wonders of the night sky in this immersive planetarium program! Observe the relationship of the Earth to the moon and the Sun. See how Earth's movement through space causes patterns in the appearance of stars and other celestial objects. Explore the constellations, and learn why stars change position seasonally. Investigate the scale of our solar system and the planets within it. Handle actual meteorites from outer space! The majority of this field trip takes place in the planetarium. This field trip is limited to 100 total participants.

HCPSS Recommended Field Experience: 5th grade, Quarter 1

NGSS Standards: 5-ESS1-1

NEW! Stargazing

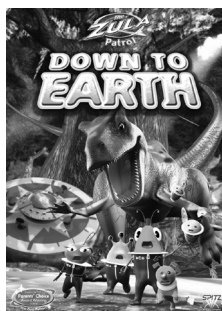
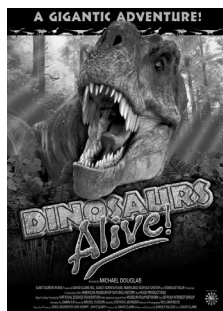
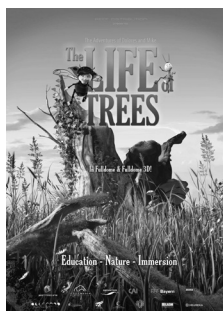
Grades 6-8 / 3 hours/ Year-round availability

on W, Th, F / \$15 per participant

During this rigorous astronomy field trip, students observe the movement of stars through the night sky, compare heliocentric and geocentric models of our solar system, and use shifts in light emission spectra to determine whether stars are moving towards or away from Earth. Students use resources not available in most schools including a full-dome planetarium and spectroscopes that separate light into wave components to better understand complex astronomy concepts. Through this exploration, they use observations about the movements of planets and stars to determine if space objects are in danger of colliding with Earth.

This field trip covers Lesson 3.4, "What Do Moving Planets Look Like from Earth" and Lesson 4.4, "How do Stars Move in the Milky Way Galaxy" of the 6th grade astronomy unit of the Project-Based Inquiry Science curriculum. This field trip is limited to 100 participants. If you would like us to accommodate more, please contact the Nature Center directly to review scheduling options.

NGSS Standards: MS.ESS1-1, MS.ESS1-2, MS.ESS1-2, MS.PS4-1



Planetarium Films

Age Recommendations

Film	Pre-K	Grades K-2	Grades 3-5	Grades 6-8	Grades 9-12
One World, One Sky: Big Bird's Adventure	X	X			
The Little Star that Could	X	X			
The Weather	X	X			
Zula Patrol: Down to Earth	X	X			
Zula Patrol: Under the Weather	X	X			
Molecularium		X	X		
Life of Trees			X	X	
Astronomy: 3,000 Years of Star-Gazing			X	X	
Earth, Moon & Sun			X	X	
Astronaut			X	X	
We Are Aliens			X	X	
We Are Stars			X	X	X
Two Small Pieces of Glass			X	X	X
Passport to the Universe			X	X	X
Stars			X	X	X
Back to the Moon for Good			X	X	X
Dinosaurs Alive			X	X	X
Titans of the Ice Age			X	X	X
Impact!				X	X
Black Holes				X	X

Standards and Content

Film	NGSS Standards	Concepts
One World, One Sky: Big Bird's Adventure	1-ESS1-1	The nighttime sky, the movement of the sun, moon, stars and constellations
The Little Star that Could	1-ESS1-1	Stars, planets, the solar system
The Weather	K-ESS2-1, 1-ESS1-2	Cloud types, weather predictions, water cycle
Zula Patrol: Down to Earth	2-ESS1-1	Fossils, geological time scale, human impacts
Zula Patrol: Under the Weather		Astronomy, Planetary science, weather and meteorology
Molecularium	2-PS1-1, 5-PS1-1	Atoms, molecules, states of matter
Life of Trees	2-LS2-1, 3-LS1-1, 4-LS1-1, 5-LS1-1, 5-LS2-1	Cycle of matter, photosynthesis, special structures of plants that allow them to survive
Astronomy: 3,000 Years of Star-Gazing	5-PS2-1, 5-ESS1-1, 5-ESS1-2, MS-ESS1.A, MS-ESS1.B, HS-ESS1-2	Astronomers in history, major astronomical discoveries and theories, seasonal patterns, constellations, space technology, celestial orbits
Earth, Moon & Sun	1-ESS1-1, 1-ESS1.A, 5-PS2-1, 5-ESS1-1, 5-ESS1-2, MS-ESS1.A, MS-ESS1.B	Moon phases, solar energy, celestial orbits, motion of the sun, moon, stars and constellations
Astronaut	4-LS1.A, 5-PS2-1	Space exploration, space technology, gravitational forces, the human body
We Are Aliens	3-LS4.C, 3-LS4.D, 5-ESS2.C	Requirements for life, space exploration, space technology, the solar system, microbes and the evolution of life
We Are Stars	MS-PS1.A, MS-ESS1.A, HS-PS1.A, HS-ESS1.A	Structures and properties of matter, from what elements and how stars are formed, evolution of living organisms
Two Small Pieces of Glass	5-PS2-1, 5-ESS1-1, MS-ESS1.A, MS-ESS1.B	Astronomers and the invention of the telescope, celestial objects
Passport to the Universe	5-ESS1-1, MS-ESS1.A, MS-ESS1.B, MS-ESS1-2, HS-ESS1.A	The solar system, deep space, galaxies, nebulae, black holes, the formation of the Universe
Stars	5-ESS1-1, MS-ESS1-2, HS-ESS1.A	The lifecycle of stars, constellations, nebulae, pulsars, black holes
Back to the Moon for Good	3-5 ETS1-1, MS-ESS3-4, MS-ETS1-1, HS-ESS3-1, HS-ETS1-1	Past, present, and future lunar exploration, global human innovation, the possibility of lunar habitation (resources on the moon)
Dinosaurs Alive!		Paleontology and fossil hunting, dinosaur adaptations, and prehistoric habitats and dinosaur interactions
Titans of the Ice Age		Adaptations of prehistoric animals, survival strategies and habitats of early animals, fossil evidence today
Impact!	MS-ESS1-2, MS-ESS1-B	Meteors, meteorites, asteroids and comets
Black Holes	MS-ESS1-2, MS-ESS1-B, HS-ESS1.A	Formation of the Universe, star birth/death, black holes



Love, explore, discover nature at **ROBINSON NATURE CENTER!**

- 2 stories of multisensory, interactive exhibits
- Discovery Room and outdoor Nature Place for children
- NatureSphere digital planetarium and full-dome movie theater
- Historic mill ruins
- Nature trails, arboretum, and more...



Howard County
RECREATION & PARKS



6692 Cedar Lane, Columbia, MD 21044 | 410-313-0400
www.howardcountymd.gov/robinsonnaturecenter.htm



Special Field Trip Add-Ons

NatureSphere Planetarium Experience

**All Ages / 30 min / Year-round availability
on W, Th, F / \$3 per participant**

Add a planetarium experience in the Robinson NatureSphere to any field trip program. Choose from one of several age-appropriate full dome presentations that explore concepts from planets to the birth of stars and from constellations to molecular science, or choose a seasonal sky presentation. For film recommendations and previews, visit www.howardcountymd.gov/RNCNatureSpherefeatures



Souvenir Bag "Add-On"

Add \$5 to any field trip to provide each student with a souvenir bag from our nature gift shop. Each bag includes a number of items such as a large tumble stone, a temporary tattoo, a sheet of stickers, glow-in-the-dark stars, and a twig pencil. Custom gift bags are available. Call 410-313-0400 for details.



www.facebook.com/RobinsonNatureCenter



www.flickr.com/hocorec